V4.0 Data Release RetQAFlag

In the V3.0 release, we recommended that users filter the data contained within the Level 2 Standard Product by consulting **RetQAFlag** and using only those fields-of-view (FOVs) for which this quality flag is <u>zero</u>. As a result, <u>entire</u> FOVs are excised from consideration. This is still a valid means of identifying the highest quality retrievals in the V4.0 release and the casual user may employ this simple quality test to select data.

In the V4.0 release, a set of quality flags, **Qual_***, has been provided to inform the user separately about the quality of the retrieval of various products, and the retrieved temperature profile in three altitude regimes. The user who carefully employs these flags will substantially increase the sample size of various retrieved parameters. Please read the Level 2 Quality Flags Quick Start documentation for a description of these flags.

V4.0_L2_QualFlag_QuickStart.pdf

The following table identifies each bit currently being used in **RetQAFlag**.
- Bits 0, 1, 2, 3, 4 are set in the case of a partial or rejected retrieval, **as in V3.0**
- Bit 5 is set in the case of rejected retrieved cloud products
- Bit 8 is set in this release version if a field-of-view is not in a validated regime and is dependent upon factors in addition to those used in V3.0
- Higher order bits are controlled by Qual_* flags and are new

BIT	VALUE	MEANING IF SET
0	1	MW retrieval rejected or not attempted
1	2	Initial Cloud Clearing rejected or not attempted
2	4	Initial Regression rejected or not attempted
3	8	Final Cloud Clearing rejected or not attempted
4	16	Final Retrieval rejected or not attempted
5	32	Cloud and OLR rejected or not attempted
6	64	[currently spare, and set = 0]
7	128	[currently spare, and set = 0]
8	256	This type of retrieval not yet validated
9	512	Surface retrieval is suspect or rejected (Qual_Surf > 0)
10	1024	Bottom part of Temperature profile quality check failed or not attempted (Qual_Temp_Profile_Bot > 0)
11	2048	Middle part of Temperature profile quality check failed or not attempted (Qual_Temp_Profile_Mid > 0)
12	4096	Top part of Temperature profile quality check failed or not attempted (Qual_Temp_Profile_Top > 0)
13	8192	Water Vapor retrieval rejected (Qual_H2O > 0)
14	16384	Ozone retrieval rejected (Qual_Ozone > 0)
15	32768	[currently spare, and set = 0]